



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,578	04/02/2004	Thomas Kugelstadt	TI-35652	4907
23494	7590	05/17/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			KO, TONY	
P O BOX 655474, M/S 3999			ART UNIT	PAPER NUMBER
DALLAS, TX 75265			2878	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

✓ ✱

Office Action Summary	Application No. 10/817,578	Applicant(s) THOMAS KUGELSTADT	
	Examiner Tony Ko	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/12/04</u> . | 6) <input type="checkbox"/> Other: ____. |

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claim 6 objected to because of the following informalities: line 21 states “overlaod and the to”. Examiner recommend to remove the “the” in front of to. Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: power amplifier 40, analog converter 50. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakamoto (U.S. Patent 6,643,472).

3. Regarding claims 1, 4, 9 and 10, Sakamoto discloses (Figs. 15 and 20) a photodetection arrangement including a photo detector (1); supply circuitry (3) for biasing the detector into incident light conduction; a current sensing element in said supply circuitry to sense detector current, said element being selected such that its value is sufficiently low not to contribute a bias disruptive voltage drop due to said conduction of said detector; a circuit (23) for comparing said sensed current with a reference value; and a circuit for removing ($V_{apd} = 0$) said bias when said a reference value is exceeded, said a reference value being selected such that it represents onset of an overload of said detector (Col. 8, Lines 1-30). Sakamoto also discloses a latch (the wire connecting comparator circuit and voltage control circuit), which is triggered upon an overload being applied to the detector. Sakamoto discloses the sense element

is a low value series of resistor of a value series resistor of a value too low to afford detector protection. Sakamoto also discloses the above mentioned invention is configured as test apparatus for a photo detector and the detector is an avalanche photo diode (Col. 1, Line 1).

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Blaise (U.S. Patent 3,560,755).

6. Regarding claim 1, Blaise discloses (Fig. 6) a photodetection arrangement including a photo detector (6); supply circuit (15 and 16) for biasing the detector into incident light sensitive conduction; a current sensing element (16) in said supply circuitry to sense detector current, said element being selected such that its value is sufficiently low not to contribute a bias disruptive voltage drop due to said conduction of said detector; a circuit for comparing said sensed current with a reference value; and a circuit for removing said bias when said a reference value is exceeded, said a reference value being selected such that it represents onset of an overload of said detector (Col. 4 Line 70 to Col. 5 Lines 1-23).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto.

9. Regarding claim 3, Sakamoto discloses the invention set forth above. Sakamoto does not disclose the latch controls a switch which acts to disconnect or remove said supply to said detector. It is well known to use a switch to disconnect or remove signals. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a switch which acts to disconnect or remove said supply to said detector to minimize the error due to the leakage of current.

10. Regarding claim 5, Sakamoto discloses the invention set forth above. Sakamoto does not disclose the value of the resistor is of the order of 500 ohms. It is design choice to set the resistor value in the order of 500 ohms. It would have been obvious to a person of ordinary skill in the art at the time of the invention to design the value of the resistor is of the order of 500 ohms to ensure the current is within the specification.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto in view of Barrett (U.S. Patent 5,311,451).

12. Regarding claim 6, Sakamoto discloses the invention set forth above. Sakamoto does not disclose the device including a microcontroller arranged to control the supply circuitry, said microcontroller arranged to receive an interrupt upon the onset of overload and to enter a wait routine to provide a delay before controlling the arrangement to resume normal operation. Barrett discloses the use of a microcontroller arranged to receive an interrupt upon the onset of the sudden change of voltage and enter a wait routine to provide a delay before controlling the system. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have a microcontroller arranged to control the supply circuitry, said microcontroller arranged to receive an interrupt upon the onset of overload and to enter a wait routine to provide a delay before controlling the arrangement to resume normal operation to ensure the photo diode operates under a non-destructive environment.

13. Regarding claim 7, Sakamoto in view of Barrett discloses the invention set forth above, Sakamoto in view of Barrett does not disclose the microcontroller is arranged to reset the latch after said delay. It is well known to reset the latch after the delay. It would have been obvious to a person of ordinary skill in the art at the time of the invention to reset the latch after said delay to restart the device.

14. Regarding claim 8, Sakamoto in view of Barrett discloses the invention set forth above, Sakamoto in view of Barrett does not disclose the microcontroller monitors detector output and determines a suitable delay based upon logged values before the onset of overload. It is design to use the microcontroller to monitor detector output and determines a suitable delay based upon logged values before the onset overload. It

would have been obvious to a person of ordinary skill in the art at the time of the invention to the microcontroller monitors detector output and determines a suitable delay based upon logged values before the onset of overload. It is design to use the microcontroller to monitor detector output and determines a suitable delay based upon logged values before the onset overload to ensure the photo diode can be operated in a non-destructive environment.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TKO


DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800